

**BRISTOL SHIPBUILDING
IN THE
NINETEENTH CENTURY**

GRAHAME FARR

**ISSUED BY THE BRISTOL BRANCH OF THE HISTORICAL ASSOCIATION
THE UNIVERSITY, BRISTOL**

Price Twenty-Five Pence

1971

BRISTOL BRANCH OF THE HISTORICAL ASSOCIATION
LOCAL HISTORY PAMPHLETS

Hon. General Editor : PATRICK McGRATH

Assistant General Editor : PETER HARRIS

Bristol Shipbuilding in the Nineteenth Century is the twenty-seventh pamphlet published by the Bristol Branch of the Historical Association. Its author, Mr. Grahame Farr, is an expert on the history of west-country shipping and has written a large number of books and articles on the subject. He has already contributed two pamphlets to this series *The Steamship Great Britain*, which went into a second edition this year and which has had a very large sale, and *The Steamship Great Western*, which is at present out of print.

The next pamphlet in the series will be *Early Medieval Bristol* by Dr. David Walker of University College, Swansea.

The Branch has deliberately kept down the price of the pamphlets as long as possible so that they may enjoy a wide circulation, and it has been assisted by a number of grants from various public bodies, but unfortunately rising costs have made it essential to increase the price to 25p. Readers can help prevent a further increase by placing standing orders for future productions and by making the series known to an even larger public.

A full list of publications will be found on the inside back cover. The pamphlets can be obtained from most Bristol booksellers or direct from Mr. Peter Harris, 74 Bell Barn Road, Stoke Bishop, Bristol 9, BS9 2DG.



Communications II

B 25652

BRISTOL SHIPBUILDING IN THE NINETEENTH CENTURY

by GRAHAME FARR

'She went off the stocks in magnificent style, amidst the firing of cannon and the exultation of the surrounding spectators, the band of the Third Regiment of Light Dragoons playing several delightful airs, on the deck of a sister steamer, which was moored close by, contributing greatly to enliven the scene.'

THUS the press of 1831 described the glittering scene at the launch of the paddle steamer *Albion*, destined for the important packet trade between Bristol and Ireland. Similar phrases were used time and time again as nineteenth century Bristol, steeped in maritime traditions, turned out in force to enjoy such spectacles.

In shipbuilding as in all other facets of commerce, the century saw great change—from wood construction to iron, and then to steel; from sail to steam power, with steam engines themselves advancing from simple to compound, then to triple-expansion and on to even more sophisticated systems. Although it might be difficult to find statistical proof, for most of the period ship-building must have been one of the most important manufacturing industries in Bristol. During the first sixty years of the century Forest of Dean oak was at hand for the keels, frames, stem-posts, stern-posts, knees and other important timbers, while imported woods, mostly Baltic and Canadian, served for planking, decking and spars. Earlier traditions of craftsmanship prevailed and even though the *raison d'être* disappeared with the creation of the Floating Harbour in 1809 they continued to build vessels with extra stoutness to withstand the strains of grounding between tides—the style which gave origin to the proud catchet 'Shipshape and Bristol Fashion'.

Later the growing popularity of iron construction somewhat reduced the prosperity of Bristol shipyards, as indeed throughout the south-west, but through to the close of the century they were still producing a few craft of varying sizes in both iron

and wood. The characteristics of the river Avon to this day limit the length of vessels to about 325 feet, but within this dimension there was scope for a varied production, including craft for specialised purposes. The lock lengths were little hindrance as vessels could be passed out 'on top of the tide', but of course their width was an important factor.

The period 1800-15

Following these introductory remarks let us return to the beginning of the century and review Bristol shipbuilding chronologically, the first sixteen years being a reasonably clear-cut division. We were at war for the whole period save a brief respite during 1801-3, and the trade of the port was severely affected by the loss of European markets, the delays of ocean conveying, the depredations of privateers, and other factors. This no doubt contributed to a reduction in local shipbuilding, although the reservation of the best cultivated oak for naval construction was no doubt a contributory cause. The West India trade, vital to Bristol, took 74 per cent of the total tonnage produced in these years, amounting to 47 out of 122 bottoms traced.¹

The West-Indiamen of the turn of the century were usually two-deckers, with a few three-deckers and except for one or two with snow rig, the majority were three-masted full-rigged ships. In spite of the wars austerity came in slowly, and most vessels had figureheads at the bows and 'sham galleries' carved at the stern. Some of the larger ones were built with true galleries, giving a narrow railed walk, but the fashion was dying out. Many were sheathed with copper as a protection against marine worms, an expensive antidote, but probably cheaper in the long run than the older wood sheathing used on a sacrificial basis and frequently replaced.

A typical early example of the century was the *Betsey* of 1800, owned by the Baillies, who had plantations in Grenada. She was two-decked, three-masted and ship rigged. Her register showed her extreme length aloft as 94 ft 3 in; extreme breadth 26 ft 3 in; height between decks 5 ft 6 in, giving a tonnage of

1. Official returns (Customs 17 at PRO) give the following comparison:
5 years of peace, 1787-91—98 bottoms, 11,955 tons.
5 years of war, 1804-8—33 bottoms, 5,950 tons.

It must be admitted, however, that the returns for many years are impossible to reconcile with the totals of known launchings. Figures quoted in this work are derived from a list of 940 vessels built at Bristol between 1800 and 1899, compiled from registers of various sorts, press reports, etc.

267, and her draught of water when laden was 16 ft. The largest West-Indiamen built at Bristol during the wars were the *Nelson* of 1807 and *William Miles* of 1808, both for the Jamaica trade, the latter remaining the largest ship built in the port for twenty years. Their respective tonnages were 574 and 578, the dimensions of the latter being—length 127 ft 8 in, breadth 32 ft 4 in, height under upper deck 5 ft. 11 in, under lower deck 4 ft, 10 in, depth of hold 24 ft 9½ in, and laden draught 19 ft. These vessels were exceptional however, as the average burden of the Bristol West-Indiamen of the period was 300 tons.

Some well armed West-Indiamen were licensed to sail as 'running ships' independent of the convoys and one, Protheroe's *Saint Vincent* of 1804, with fourteen guns, was given charge of a convoy in 1809 so becoming an early armed merchant cruiser. The *William Miles*, mentioned above, was also a running ship, but the general run of West-Indiamen had an armament, merely defensive, of the old type short guns.

Few vessels of the intermediate class were built during the wars due to the curtailment of the Mediterranean and Baltic trades, although the Newfoundland merchants of Bristol contrived to keep busy. One built for this trade was the *Traveller*, a brig of 84 tons, for the fleet of Bethel and Jordan Henderson. She was equipped with six carriage guns and licensed as a running ship, being advertised to sail for Cadiz 'without convoy'. In the same class were the only two private ships of war built at Bristol in this period. These, both launched in 1803, were the sister vessels *True Briton* and *True Blue*, schooner rigged and of 63 tons, armed with twelve guns, six- and two-pounders. According to Damer Powell neither made any captures.²

For the coasting fleet there was an average of one new craft per year from local yards. Of these the greater number were Irish packets, Bristol being an important terminal for services to Cork, Waterford and Dublin. These vessels were almost exclusively cutter or sloop rigged, a typical example of 1805 being the *Cornwallis*, of 44 tons, with dimensions—length 46 ft, breadth 15 ft 3 in, and depth of hold 8 ft. Although they carried many passengers, military and civilian, the accommodation was of a most primitive kind. The press notes that in 1808 a man, a boy and two women died from cold on board the *Cornwallis*, 'the wind blowing so strong as to prevent any fire being made without causing great danger to the vessel.'

2. Commander J. W. Damer Powell, DSC, RD, RNR *Bristol Privateers and Ships of War* (1930 Bristol: J. W. Arrowsmith).

Affording a little comic relief an unusual experimental vessel was built in 1811 to the design of Dawson and Studley, of the Mechanical Establishment at the Hotwell. The *Bristol Mirror* described her as—'A self moving vessel . . . to sail against wind and tide. She has one mast of iron, with an upright windlass affixed to the same; there are twelve horizontal sails similar in shape to window shutters which, when in motion, can weigh her anchor, work three pieces of mechanism (two projecting from her sides and one in the centre), two pumps and upon occasion, two sweeps of 24 feet, and the whole in a simple and compact manner; her canvas is also extended or shortened in an instant. She has neither blocks nor any running rigging, except a fore and aft stay and cable. In fact she is a complete Life as well as a Packet Boat, and calculated to sail upon, as well as before the wind.' It is unfortunate that no plan or picture of this intriguing vessel has come to light.

In 1813 there was an event which seems to have attracted singularly little attention at the time—the building of Bristol's first steam vessel. Perhaps the fact that the *Charlotte*, and also the *Hope* built in the following year, were intended for service in inland waters blinded people to the possibilities of the steam engine at sea. The *Charlotte*, with an engine of four horse power, was built to the order of Theodore Lawrence, a Bristol attorney, and ran on the river between Bristol and Bath during 1813 and 1814. The *Hope*, originally in the same ownership, plied on the Severn in 1814, but by the following year had been sold for service on the Thames. The later history of the *Charlotte* is uncertain. A comment on the *Hope* was—'too slow to be agreeable and too crank to feel safe.' One can imagine both were a little too noisy and primitive for the travelling public. Nine years were to pass before another steam vessel was built at Bristol.

The period 1815-39

The coming of peace in 1815 heralded a gradual increase in ship-building at Bristol over a period of five years. One gets the impression of a cautious replacement of obsolete tonnage as the owners explored the possibilities of regaining and extending pre-war avenues of commerce. From about 1820 there was a fairly high level of prosperity in the trade, lasting until 1860. However it will be convenient next to deal with the period until 1839, when the first iron vessel was built at Bristol.

Dealing with the various classes of vessel we find that the post-war West-Indiamen were generally slightly smaller vessels

than earlier ones, and in operation, freed of the need for convoys and escorts, were expected to be more flexible by making intermediate voyages in other directions. For example we have the sister vessels *Augusta*, 330 tons, of 1828, and *West Indian*, 328 tons, of 1829, which were built by Hilhouses from the same draught.³ They were approximately 107 ft long, square sterned ships—although from 1824 many West-Indiamen were rigged as barques, and the two in question were cut down to this rig at a later date—with two decks, quarter galleries and bust heads. The former was purchased by the house of Daniels, of London and Bristol, for the Demerara trade, and the latter by a London concern for voyages to the Cape and Hobart Town. In later years both vessels were employed variously in voyages to India, South America, Australia and the West Indies. The *Augusta* proved to be a fast sailer for her class and once made a Barbados voyage, out and home, including loading time, of 3 months and 12 days. Eventually she foundered at sea in 1861, having sprung a serious leak when bound for Manila with coal from Cardiff.

Another Bristol-built West-Indiaman which had a varied career was the *William Miles* of 1816. She was built by Hilhouse as a moderate sized ship of 324 tons, length 105 ft with a square stern, quarter deck and bust head. In 1854, having reached an age when most deep-water sailing ships would have been cut down to hulks, she was sound enough to be lengthened by 32 feet and had other alterations which had the effect of nearly doubling her tonnage. She was thereafter 634 tons, by the old measurement, but by the new measurement, brought into force in 1836, she stood at 572 tons. She was eventually wrecked near Porthcawl in 1883, when bound for Swansea to load coal. Lloyd's Register shows that she voyaged to India, Canada and the Mediterranean, besides the West Indies, latterly being owned at Littlehampton. Another outstanding West-Indiaman of this period, but of a larger class, was the *Francis Smith*, 581 tons, built by Scott in 1828 for London owners. By surpassing the *William Miles* of 1808 by just three tons she became the largest ship yet built in the port, and held that distinction until 1837 when she was in turn overtaken by the steamship *Great Western*.

At this time a great number of intermediate vessels—brigs and schooners, were operating in the West India trade. Some

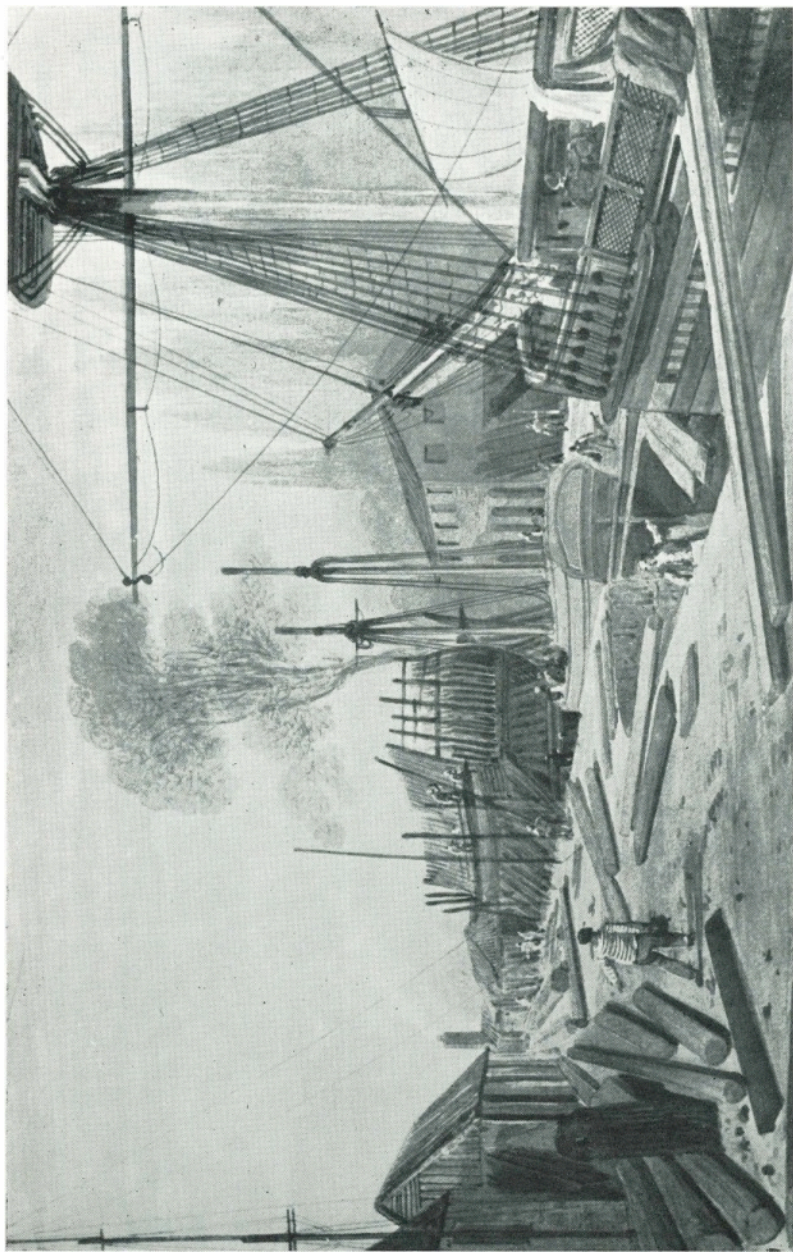
3. For the history of Hilhouses and their successors the Hills as ship-owners and shipbuilders see—John C. G. Hill, *Shipspace and Bristol Fashion* (1951 Liverpool: Journal of Commerce).

appear to have been built for the purpose, probably with a view to greater speed on passage and shorter loading time allowing the possibility of fitting in one or more Baltic voyages, or Newfoundland-Mediterranean voyages between the sugar crops. Among these was the *Mars*, a brig of 229 tons, built for Daniels in 1819, which easily made two West India voyages in the period July 1819 to May 1820. There was also the schooner *Dispatch* of 1819, a small craft of 79 tons, carrying 90 tons, owned by Cunningham of Bristol, which made six Tobago voyages in 21 months between July 1819 and April 1821. Another medium sized vessel, interesting in that she was built of Indian teak, probably the first so built in Bristol, was the *Asia* 181 tons, of 1820. She was snow rigged, had a main deck and quarter deck, square stern and bust head. Her builder was James Tippet.

In 1834 William Patterson, who brought a deal of fresh thought to Bristol shipbuilding, launched an outstanding schooner for the West India trade. She was of 154 tons, with dimensions 85 ft 1 in long by 20 ft 7 in broad which, by comparison with those of the *Asia* mentioned above (79 ft by 23 ft 6 in) show that she was indeed 'a clipper model'. She had a square stern, 'false' galleries, and a unicorn head. The press eulogised—'The splendid schooner *Velox* having been so great an attraction, it would be discreditable to his fellow citizens were the talents of so enterprising a builder as Mr Patterson overlooked. The model is one of superior excellence and has met with the approbation of every scientific examiner. The wooden walls of England having always been her pride, an improvement in the style of nautical architecture must be hailed by everyone with satisfaction; we, therefore, feel it our duty to compliment this spirited builder in having produced a vessel which must be acknowledged to be the pride of Bristol.'

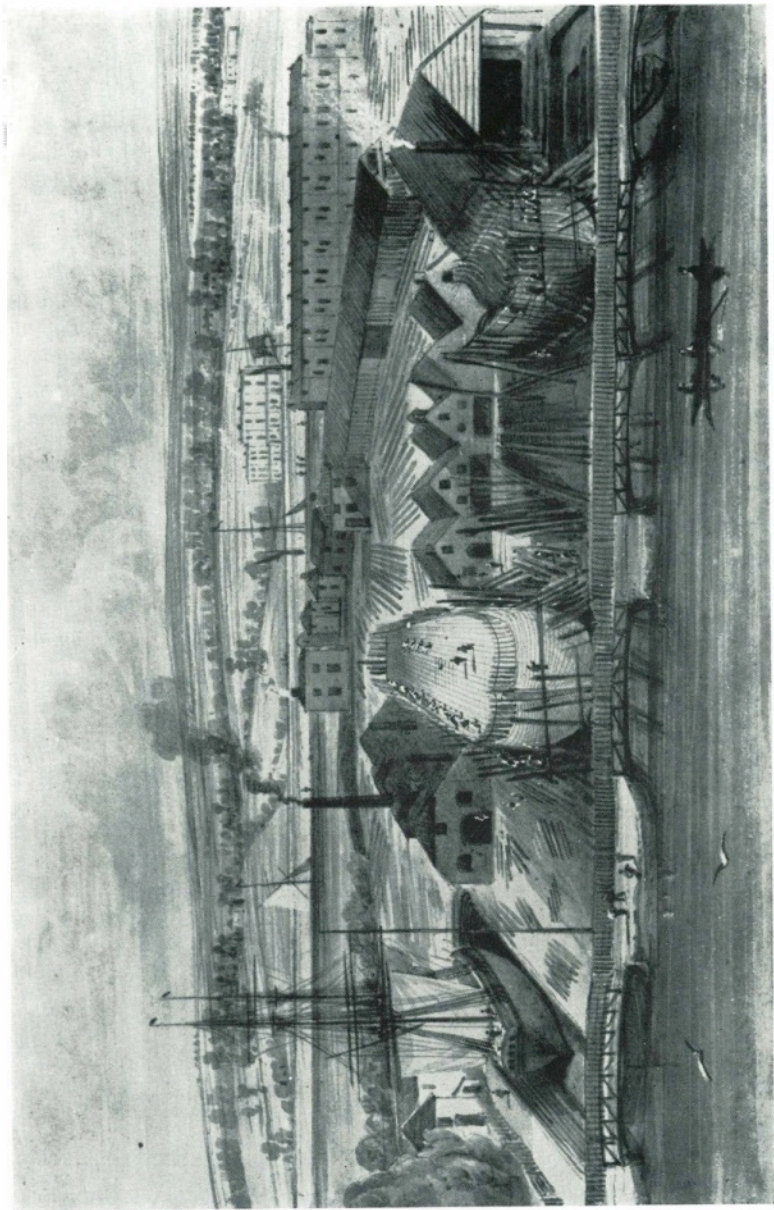
An interesting class of vessel, by no means peculiar to this period, was the West Indian drogher, a sloop or schooner ranging from 20 to 70 tons, used as a supply vessel collecting the products of up-river and isolated plantations and bringing them to the main ports for transhipment. Native craft were often used but a large number were built in Bristol and, it is believed, sailed out across the Atlantic on a southerly track. There is, however, a dearth of contemporary reports on their delivery voyages which must often have been full of incident. Droghers were also used by the Bristol traders on the rivers of the west coast of Africa.

Several ships were built during the period under review for the Mauritius, India and other trades east of the Cape. The



Dating from the early 18th century, and possibly earlier, Tombs' Dock was at The Butts in Dean's Marsh. This watercolour, by T. Rowbotham, is dated 1826, when the premises were occupied by the shipwright Green. Ships were built at the head of the dry-dock and launched through it to the Frome. The dock was closed in 1883.

By courtesy of the City Museum and Art Gallery



The New Dockyard, later the Albion Dockyard, was opened by Hillhouses in 1820 and is in use to this day. Note the men caulking the decks of the nearly completed hull in the centre.
By courtesy of the City Museum and Art Gallery

first was the ship *Mexborough*, 376 tons, built by Hilhouses for London owners and launched on New Year's day, 1823. She sailed for Madras and Calcutta in the following March. The larger ship *Elphinstone*, 559 tons, was also built by Hilhouses for London owners in 1825. The *Lord William Bentinck*, 565 tons, of 1828, built and first owned by Hilhouses, was chartered by the East India Company for a China voyage, but while away she was sold to London owners. She was a two-decker, with square stern, double galleries and a bust head.

It might be asked how the West and East Indian ships differed in their construction for in both trades tropical conditions of heat and rain were encountered. When they were built specifically for one or the other trade the main difference was in the height between decks. The East-Indiaman *Lord William Bentinck*, above, had a height of 6 ft 9 in, while the comparable sized West-Indiaman *William Miles*, of 1808, had 5 ft 11 in in the upper deck and only 4 ft 10 in under the lower deck. The smaller *Betsy* of 1800 had only 5 ft 6 in. The reason for the difference lay in the type of cargo. The principal West India cargo was semi-liquid sugar in large casks, stowed on their sides, and as nothing could be laid on top of them, the tween-deck heights were not necessarily great. On the other hand the India trade was largely in baled or cased goods, comparatively light, and greater deck heights were needed if a paying load was to be carried.

An interesting vessel from the Hilhouse yard was the ship *Victoria*, 359 tons, built in 1831. Her builders retained ownership and she made varied voyages to Mauritius, Calcutta, Sydney and Hobart Town. Probably for the benefit of future building her suitability for Indian Ocean voyages was questioned and a note was attached to her original draught, of which the decipherable portion reads—'Conversation with Captain Wilson, July 1832, with his opinions. All ships for Calcutta trade should have poops not too long. *Victoria* would be much better if made to 28 ft beam.' Her actual beam was 26 ft 9½ in. She appears to have been successful, however, for she remained in the same ownership until 1847. In 1839 she performed the difficult and dangerous feat of saving the East-Indiaman *Northumberland* which had been dismasted in a hurricane. This was accomplished by towing the derelict to Mauritius, a distance of 642 miles, in five days. Hilhouses incorporated Captain Wilson's suggestion for a greater width of beam in two further ships suited to either east or west trade which they launched in 1833—the *Pearl*, 394 tons, and *Sybilla*, 385 tons. The latter 'a remarkably handsome vessel,' made what was described at the time as an 'almost

incredible short passage' of seven months to Mauritius and back, including loading time, in 1834-5.

Two large East-Indiamen were built at Bristol in 1835 and like the *Victoria* first sailed under the flags of their builders. The *Clifton*, by F. W. Green, was of 579 tons, and the *Orestes*, by Hillhouses, of 530 tons. Both were of similar length but the former was 32 ft 3 in in breadth with 8 ft height between decks, and the latter only 30 ft. 11 in in breadth with 6 ft 9 in height. Obviously the *Orestes* was built to be the faster sailer but not quite in the clipper class. She was first employed in carrying tea from China, making her homeward passage of 1839 in 127 days, a creditable performance, and was later employed in emigrant traffic to Australia, being at one time commanded by the notorious Bully Hayes.

The year 1823 saw the first vessels built at Bristol specifically for the United States trade since the previous century. Both were owned by Bushell and Lyon, the first being the *New York Packet*, a comparatively small ship of 270 tons, which made her first passage in March, followed in August by the larger *Earl of Liverpool*, 389 tons. Both attained a reputation for speed, having made homeward passages from New York of 23 days. The *Earl of Liverpool* later went into the West India trade and made passages to and from Nevis of 25 days each way, a speed said to have 'never been surpassed.' Later still she was employed to India, China and South America.

Strangely little was done by local owners towards building up a fleet to trade with the United States. For a few brief years from 1837 the light of enterprise shone while the *Great Western* plied as the first true Atlantic liner. This pioneer steamship from the yard of William Patterson has been described at length in an earlier booklet in this series (No. 8). Although begun with high hopes the opportunity to establish Bristol as an Atlantic terminal was thrown away by the attitude of the Docks Company, which failed to provide suitable accommodation for large ships, and by the owning company's failure to build several similar ships with which to secure the mail contract. Instead they built the one gigantic experiment launched as the *Great Britain*.

In 1837 the barque *Niger* was built for the West African barter trade which had for many years been carried on in rather a hand-to-mouth fashion with vessels superannuated from other roles. This was a revival of the old Guinea trade which had been interrupted both by the wars and by the abolition of slave trading. Beside the hardwood, copal gum, beeswax and 'elephant's

teeth' the chief desideratum was palm oil for soap making. Bristol-merchant-shipowners built up a considerable trade on 'the coast', carried on by the barter of ornaments, beads, cotton piece goods, household utensils and, particularly at a later date, with bric-a-brac from pawnbrokers' shops. Thus came the brass bedstead in the chief's mud hut, and his resplendent military uniform. A number of vessels built for the trade will be noticed in due course. The *Niger* was built at Pill, 163 tons, and 80.4 ft. long. She fell an early victim to the poorly charted miasmatic areas in which she traded, being wrecked on the bar of the Meneswada river in 1841.

Full resumption of trade throughout Europe with the coming of peace fostered the production of intermediate vessels. This somewhat indefinable term is used because the vessels ranged from schooners to full-rigged ships, in tonnage from 50 to 250, and their trades were many and varied. A typical Oporto trader of 1815 was the snow *Active*, built by Morgan and Rowles at Pill, of 108 tons. She also made voyages to Saint Petersburg and elsewhere in the Baltic. A similar vessel, the snow *United Friends*, 103 tons, by the same builders in 1817, was employed in the Quebec trade, but also visited the West Indies. The rather larger ship *Hugh William*, 239 tons, of 1816 was employed in the Newfoundland trade of William Danson.

Two other typical intermediate traders of this period were the snow *Nile* and brig *Levant*, both built in 1818. The *Nile*, 121 tons, traded to Malta, but stranded near Boulogne in 1820 when bound for London. She was salvaged and rebuilt as a barque of 158 tons. A sale notice of 1825 shows that she later traded in other directions—'Lately employed in the Berbice trade . . . adapted for the West India, Brazil or Mediterranean trades, or for general purposes.' The *Levant*, 132 tons, can be traced trading to Leghorn, Naples, Malta, Gallipoli and also Bergen. A different class of vessel is represented by the schooner *Magic* built in 1833 for Penzance owners. She was of 120 tons and 68 ft long, her chief point of interest being her narrow beam measurement of 16 ft 2 in. This shows a proportion of about 4.2 beams to length as opposed to the more normal $3\frac{1}{4}$ - $3\frac{1}{2}$ of the period. She was evidently one of the early soft fruit schooners, which were later owned in large numbers in the southern ports, notably at Brixham, Dartmouth and Salcombe. Their carriage of ripening fruit from the Mediterranean or the Azores demanded a greater speed than that which sufficed for the dried fruit and wines carried by other traders in those areas.

Closely linked with fruit is wine, and the Oporto wine trade

seems to have been best suited with vessels in the category of 100-110 tons, for such were Whitwill's brigantine *Vintage* of 1824, and Beeston's *Rapid* of 1830. A very small schooner, the *Minerva*, was launched by Bartlett in 1836 for the Spanish trade. She was of only 46 tons by new measurement, introduced in that year, and less than 47 feet long. She was wrecked in the same year in the Scillies when bound from Gibraltar for London, an event which might or might not indicate that she was too small for the trade. However even smaller sloop-rigged vessels often crossed Biscay for cargoes of the less perishable fruits such as nuts.

An interesting vessel of 1825, which seems to have been intended for Mediterranean trade, was the *Dispatch*, 67 tons, which was fitted with Guppy's Patent Masts, the invention of Thomas R. Guppy, later to achieve fame as the superintending engineer of the Great Western Steamship Company. The novelty was a bipod arrangement of the lower masts, topped by a normal topmast. The topmast could be sent down and the poles of the bipod swivelled for use as derricks, or lowered completely for navigating under bridges. Apparently normal sails were carried but the rake of the mast assembly could be varied. The weak points were the steps for the lower mast which could never be given the firm anchorage offered by the keel to normal centrally stepped masts. The press said—'The *Dispatch* . . . fitted out in this port some time since with GUPPY'S PATENT MASTS, has arrived safely in Messina, and the report speaks highly of the facility with which she is worked and the advantages of her main sail in reaching to windward.' Showing that the arrangement was not intended solely for small craft the report goes on to say—'the patentee has just adapted his improvement to the French brig *L'Achille*.' Nothing more is heard of this novelty and the *Dispatch* was sold to a coal merchant in 1830.

For the Newfoundland and Canadian trades one notes the snow *John Cabot* of 1826, built by Hilhouses for Danson. She was of 159 tons and later became a West Africa barter-trade ship. The schooner *Henry*, 113 tons, of 1832 small though she was, made a passage of only 17 days from Quebec to the Lizard in October 1833.

The coasting fleet was augmented by a number of new craft from Bristol yards during the period under review. Sloops and cutters were being superseded by the larger schooners and in the 1820s there was a movement towards forming companies to run regular coasting lines of sailing vessels. Doubtless there had been earlier examples, but in the West Country, except for the packet services to Ireland, the master-owner and the owner with

just one or two vessels in the family led the field. Now such concerns as Hall, Pearce, Shum and Company, which ran regular vessels between Bristol and Glasgow; the London and Bridgwater Shipping Company; and the Bristol and Liverpool Smack Company, were formed to give a greater efficiency and regularity to coastwise sailings. The schooners which were developed for this trade were generally not so large as those sailing to the Mediterranean and Spain, but were quite fast and seaworthy craft. They usually carried a few passengers and their cargoes were mainly of packed manufactured goods.

Some of the schooners in this category built at Bristol were the London and Bridgwater Shipping Company's *Benjamin*, 92 tons, of 1823, 62 ft 9 in long; and *Shamrock*, 84 tons, of 1820, 58 ft long. The latter was built as a cutter but altered to a schooner in 1829. Some schooners built for Glasgow were the *Sarah*, 88 tons, of 1824; *Mary*, 100 tons, of 1828, and her sister vessel the *Clyde*, 100 tons, of 1830. The need for rather larger vessels and schooner rig is also exemplified by the sloop *Meredith*, 63 tons, built in 1820 for the Channel Islands traffic. When only four years old she was lengthened and rigged as a schooner of 81 tons.

Two of the last Irish sailing packets to be built at Bristol were the sloop *Earl of Moira Packet*, 51 tons, in 1816, and the cutter *Express Packet*, 61 tons, three years later. The usage of steam packets on the route between Bristol and Cork in 1821 showed the futility of building more sailing vessels for this trade. The *Express Packet*, sold in 1827, proved to be the last of the regular passenger carrying sailing vessels on the southern routes to Ireland before they were completely superseded by steam.

The building of seagoing steam vessels commenced at Bristol in 1822 with the *George the Fourth*, 126 tons, built by Hilhouses for the misleadingly titled War Office Steam Packet Company—really a normal private concern. In the following year were built the *Palmerston*, 116 tons, by Hilhouses, and the *Bristol*, probably by Scott, for the Swansea to Bristol service. These were the forerunners of splendid craft which were to revolutionise transport in the Bristol and Saint George's Channels. As the years went by the steam packet routes spread their tentacles throughout these areas, and beyond, giving an advance in travelling comfort over that of the sailing packets which is nowadays difficult to visualise. The great improvement in regularity—although not necessarily in speed—was of great help to commerce.

It appears that at first some coaxing was necessary to convince

Bristolians that steamships were not a novelty to be treated as a spectacular and probably dangerous experiment. Advertisements stated that the *George the Fourth* and *Palmerston* were 'built of oak from the identical models and plans of the *Royal Sovereign* and *Meteor*, Holyhead Post Office packets'. But they did not say that the two Post Office packets were considerably larger. Of the *Bristol*, and the *Lord Beresford*, built by Scott in 1824, it was stated that they were 'built on Sir Robert Seppings' plan'. Seppings, Surveyor of the Navy at the time, had introduced a system of diagonal construction which made for great strength. It is worth noting, however, that the first two Irish packets had to be re-engined in the winter of 1822-3, the *Palmerston* even before she had commenced to ply. It was not until 1826 that a local engineer, John Winwood, produced a set of engines which were fitted to the *Wye*, and this little Chepstow packet became the first steamship completely fitted out in Bristol.

The steam packets fall fairly simply into three classes—first, those for the Irish trade; second—those for the Bristol Channel routes; third—those for the river and estuarial services.⁴ During the period to 1838 there were built at Bristol eleven, six and five in the respective classes. To the last figure should be added the *Charlotte* and *Hope* of 1813, and there were also the *Great Western*, and a steam tug, making a total of 26 steam vessels built here to this time. All were wood built, square sterned vessels generally with ornamental 'galleries' and a figurehead which might be a bust, a bird or a shield bearing a device. The larger ones were schooner rigged and the smaller ones sloop rigged—a great help when the machinery broke down—but some of the river craft had no masts. Of their machinery we know little, but the evidence in the registers of machinery space shows that compactness was not a feature. In the Cardiff packet *Lady Charlotte*, of 1834, the engine and boiler rooms accounted for 38 ft 4 in out of a total length of 102 ft, and in a larger example, the *Queen* of 1838, the respective measurements were 54.4 ft and 150 ft. Of the *Lord Beresford*, of 1824, it was said that her engines gave her ten or twelve miles per hour 'without producing any unpleasant sensation'. No doubt this was the speed when tide, wind and sea conditions were in her favour.

The Irish packets increased in size fairly rapidly. After the *George the Fourth* of 1822, 126 tons, there were the *City of Bristol*, 210 tons, in 1827; *City of Waterford*, 272 tons, in 1829;

4. For the history of the steam packet services from Bristol see—Grahame Farr, *West Country Passenger Steamers* (2nd Edition 1967) (Prescot: Stephenson and Sons).

Queen, largest to date, was 150 ft long by 23 ft beam, with 24 ft 9 in depth of hold.

The Bristol Channel packets were limited in size by the facilities offered by the tidal harbours such as Ilfracombe, and by the fact that to keep up their daily sailings they had to use tidal berths at Bristol, Newport, Cardiff and Swansea. The *Mountaineer*, 118 tons, 139 ft long, of 1835, was a large example in this category, but she generally plied between Swansea and Liverpool, an exacting route. She probably merits inclusion in the first class list, but contemporarily the press distinctly states she was considered a second class packet. The largest steamships built at Bristol for services within the Channel at this time were the *County of Pembroke*, 110 tons, and 108 ft 9 in long, of 1831, and the *Star*, 150 tons and 125 ft long, of 1835. The third class packets were those which plied between Bristol and Chepstow, such as the *Wye*, 61 tons, of 1826; between Bristol and Portishead, such as *Eagle*, 30 tons, of 1834; or as ferries on the Severn, such as the *Worcester*, 42 tons, of 1827.

Of steam vessels for other purposes, there were the *Great Western*, already mentioned, and the tug *Samson*. The latter was the most powerful tug in the port at the time, and was of 99 tons gross with dimensions 73 ft 3 in by 15 ft 2 in. She had a smack rig and round stern without embellishment—a true working vessel.

The period 1839-60

The third arbitrary division into which this survey of Bristol shipbuilding is divided begins in 1839, the year of the first vessel built of iron in the port, and ends in 1860 after which the local shipbuilding trade fell off dramatically. The new iron construction naturally became more popular for steam vessels although many sailing craft, large and small, and dumb barges, were also built of this material. One steamship was built with wood planking on an iron frame, the construction known as composite, which was popular in some circles, mainly for sailing craft. Of the 279 vessels known to have been built at Bristol in this period 212 were in wood (24 steam, 188 others), 64 in iron (44 steam, 20 others), and one steam vessel of composite construction. This total includes a number of vessels for the Austrian government and gunboats for the Crimean war.

The first iron craft built at Bristol was a steam floating bridge, chain propelled by a pair of beam engines, designed by James Rendel for the Gosport-Portsmouth ferry. This was built by Acramans, prominent iron merchants of the time, and as far as

can be traced was their first 'vessel'. Owing to the unusual proportions—68 ft by 60 ft on the water line, with the deck 100 ft long, the bridge was built in three sections at the Bristol Iron Works, Saint Philip's. The sections were assembled on a temporary slip adjoining the Totterdown toll gate and then launched into the tidal Cut on 25th September, 1839. She was completed while moored in Hungroad and sailed under tow for Portsmouth in December. Public transits were commenced in the following year and it was said she was large enough to accommodate twenty carriages and a hundred persons 'without confusion or inconvenience'. A second floating bridge, this time with horizontal engines, was built for Portsmouth in 1841, but by then the builders had become Acramans, Morgan and Company and were using a new yard at the lower end of the Cut known as the Bedminster and later as the Vauxhall yard.

The production of deep water sailing ships went on throughout the period under review. Without plans and technical data it is difficult to gauge the improvements which inevitably took place in their design and construction. The desire for speed was encouraging the building of ever narrower vessels and although as a port Bristol never gained a reputation for either owning or building 'clippers', some builders, notably Patterson, built a number which must have been close to that class. His most extreme design was the *Constance*, 351 tons, of 1859 which, with a length of 146.8 ft and breadth of 24.4 ft, gives a ratio of six beams to length. The more usual proportion of Bristol products at that time was in the region of five to one, but there were also many sturdy, supremely seaworthy and by no means necessarily slow vessels of four to one and thereabouts.

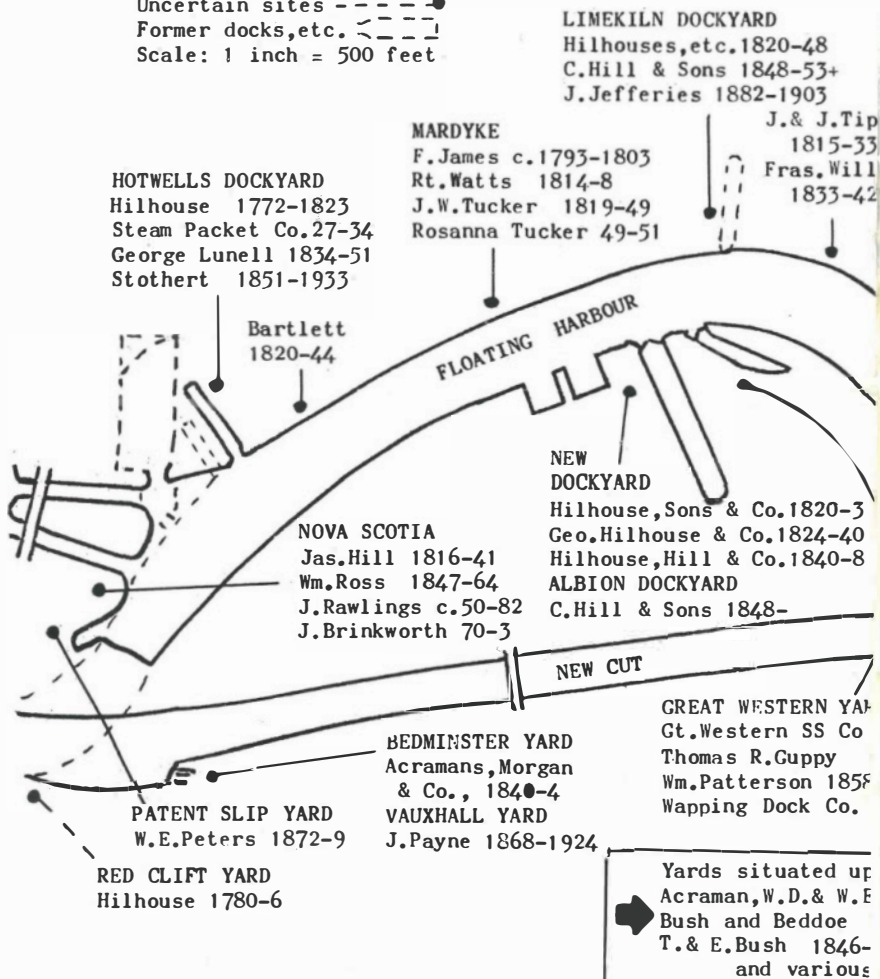
Apart from some of the West-Indiamen it is not possible to divide the large sailing ships of this period into groups for intended trades since a small proportion only was built for the old established merchant-shipowners trading exclusively with single localities. The period was one in which new markets were expanding rapidly in China, the East Indies and Antipodes and in South America and many shipowners were exploring new avenues.

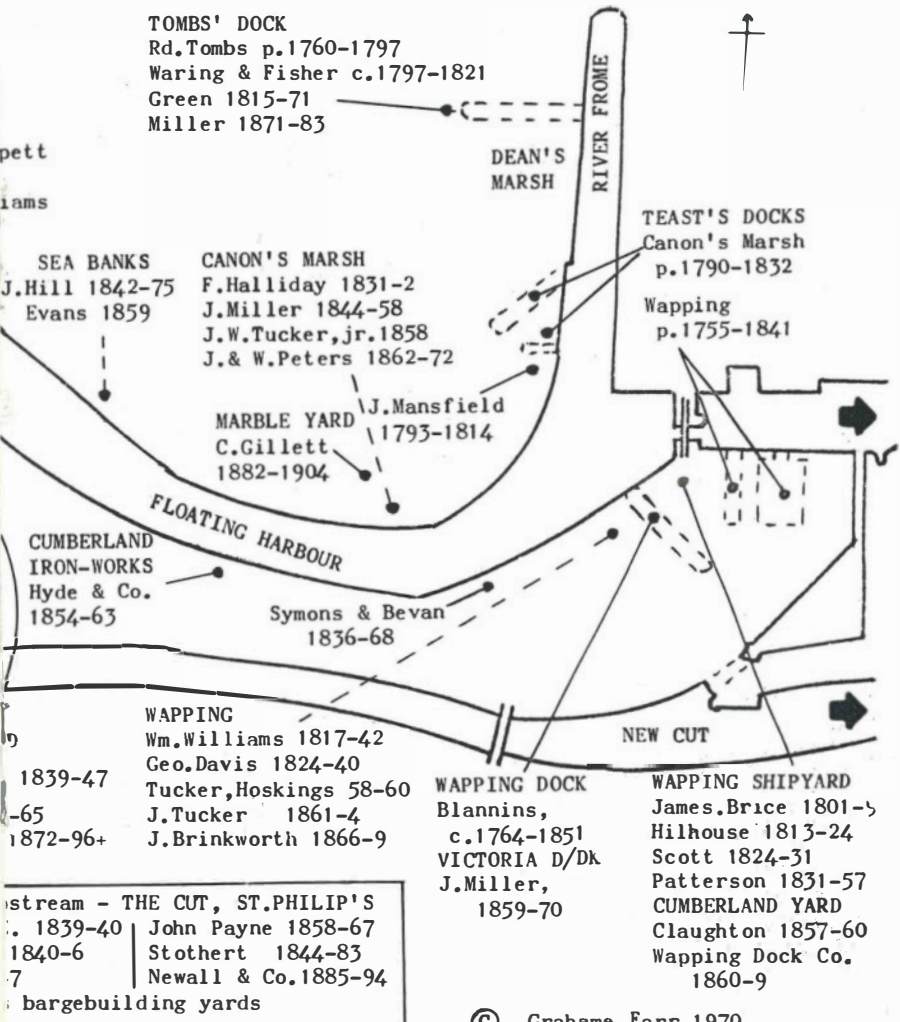
Of 24 ships and barques known to have been built for the West India trade, the average tonnage was 320. The smallest was Cook's barque *Jessy*, 171 tons, of 1845, length 80.7 ft. Later she had a mast removed and was rigged as a brig, but in 1861 after sale to Guernsey, she was lengthened and restored to a barque. Another small barque was Callender's *Steadfast*, 179 tons, of 1839, 80.6 ft. long, which made voyages to the Cape and to Patagonia seeking guano, finishing her Bristol ownership in the West African

BRISTOL

Floating Harbour and The Cut
To show shipbuilding sites
of the nineteenth century

Uncertain sites - - - - ●
Former docks, etc. - - - - □
Scale: 1 inch = 500 feet



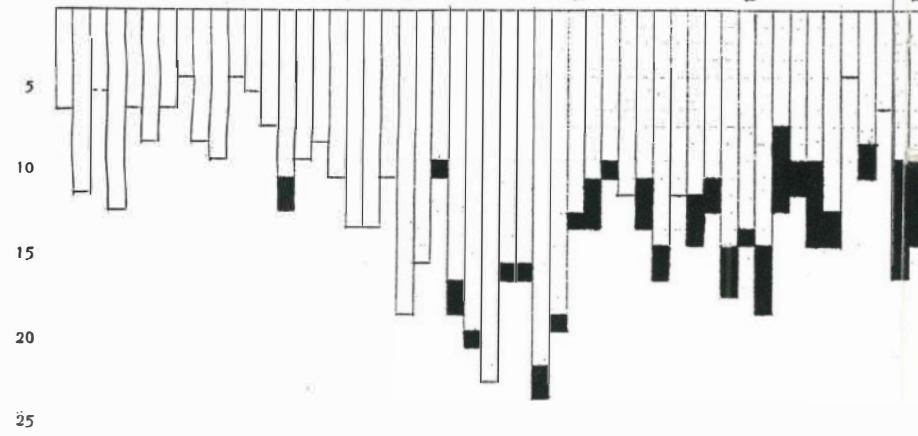
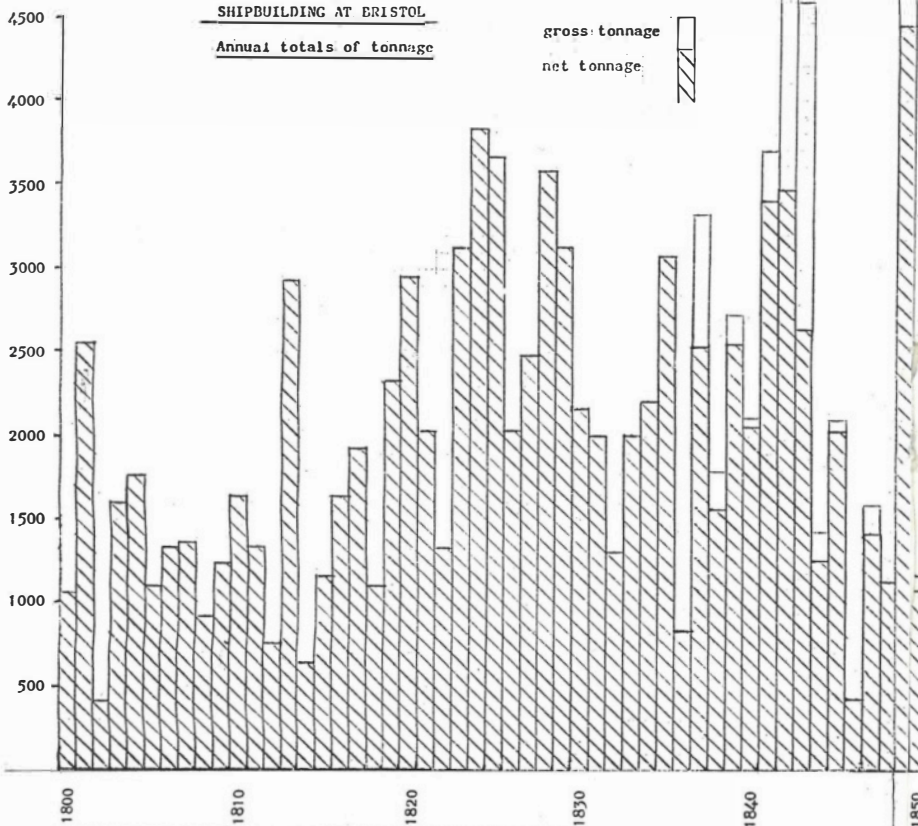


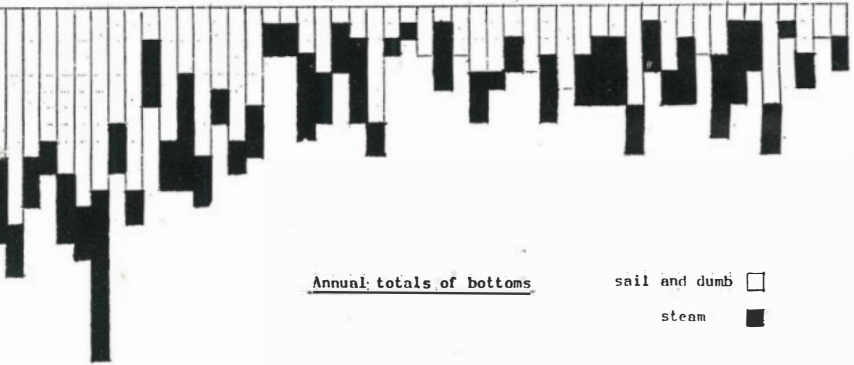
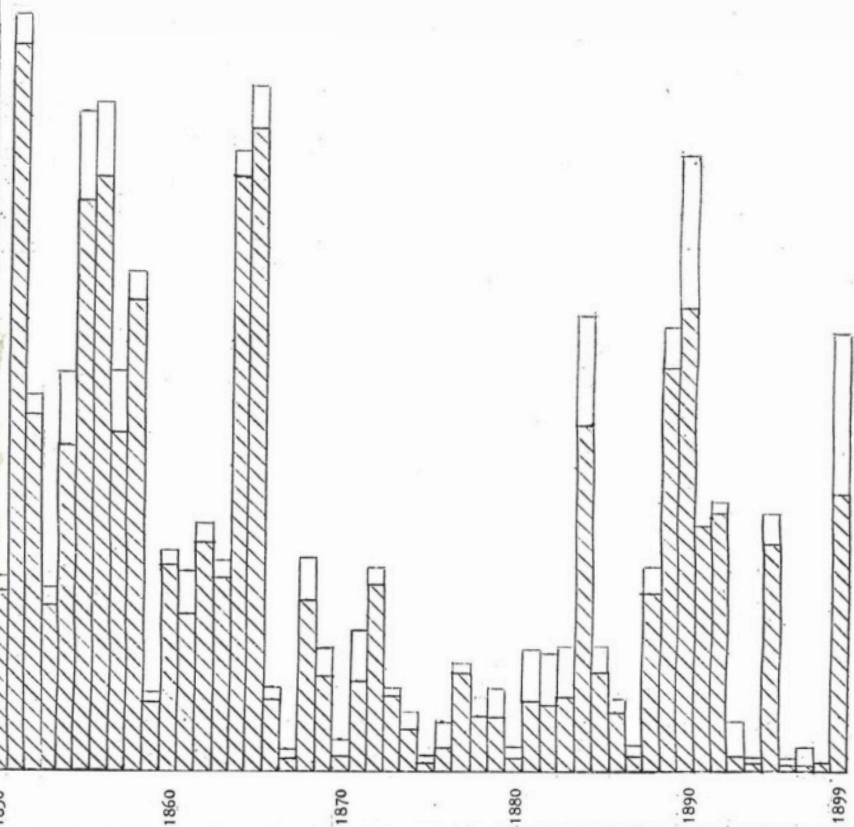
SHIPBUILDING AT BRISTOL

Annual totals of tonnage

gross tonnage

net tonnage





trade. The largest West-Indiaman built in this period was the ship *Enmore*, 540 tons, in 1858, which was built for a London house. Of more normal size was the barque *Ness*, 353 tons, of 1843, built for Baillies of Bristol but lost two years later in a hurricane in Bideford Bay. A vessel of similar tonnage, but different proportions, being 5:1 as opposed to the *Ness* (4:1) was the ship *Louisa*, 346 tons, of 1853 which, nine years later, made a remarkable Barbados voyage, out and home, of 76 days. A rather larger craft, the ship *Maria*, 399 tons, of 1842, with proportions of 4.4:1 was unexpectedly speedy, however, and made a passage of only 25 days from Bristol to Barbados when new.

In 1854-5 Charles Hill obtained contracts to build two barques and a brig for the old established West Indian merchants, Scrutton, Sons and Company of London. The barque *Trinidad*, 318 tons, of 1854, excited the following comment in the local press:— 'It is very gratifying to find that our ancient port is fast regaining its once far-famed character for merchant ship-building.' The comment refers, one suspects, to the fact that at about this time there were a number of orders from shipowners in other ports. The other two Scrutton craft were noteworthy for another reason, in that they were the first locally built vessels to incorporate the improvement known as Cunningham's Patent. This device was the invention of Lieutenant Cunningham, R.N., and enabled the topsails to be reefed from the deck, an operation which, by its speed and safety, made ships more efficient in sail carrying. Of the barque *Naparima*, 348 tons, launched in January 1855, the press also stated that 'the greater part of her standing rigging will be of wire . . . She will have patent blocks and other improvements.' Of the brig *Mignonette*, 182 tons, launched in November 1855, the press said 'her model is considered by naval authorities to be of singular beauty.'

In the period under review galleries were abolished and the form of stern altered among large sailing vessels produced at Bristol. We find the *Louisa* of 1853 had 'sham quarter galleries' but later, comparable craft such as the *Dora* (1854), *Jane Symons* (1855), *Peter Symons* (1857) and *Aid* (1858) had no galleries, simply having the so-called square stern. The *Frances* (1858) set the fashion of the semi-elliptic or counter stern which was to be the standard to the end of the era of the large sailing vessel. The *Frances* was a remarkable ship of 316 tons, with proportions 4.9:1 and once made the passage from Bristol to Demerara in 28 days.

The majority of large sailing vessels built at Bristol between 1839-60 were for owners at other ports covering the East India,

Australasian and South American trades. Exceptions were the *Prince Albert* of 1840, and the *Princess Royal* of 1841 built by Hillhouses for their own fleet, and the *Crouch Brothers* of 1854, built by Symons and Bevan for the leather merchants of that name. The two earlier vessels were orthodox ships, but the *Crouch Brothers* was a smaller barque-rigged craft of 375 tons. Early in 1855 she arrived in Valparaiso, 35 days out of Melbourne, a very creditable run across the Pacific for a comparatively small barque.

Among the vessels built for other ports there were the barque *Eagle*, 438 tons, for Willis of London in 1839, for the Australian trade; the China and East Indies ship *Duke of Cornwall*, 580 tons, of 1843; the small barque *Dione*, 289 tons, of 1857, and Henderson of London's New Zealander *Constance*, 351 tons, of 1858, which has already been mentioned on account of her sharp build. The *Charlotte Jane*, 729 tons, built by Patterson in 1848, was intended for the East India trade, but was destined to play a leading role in the colonization of New Zealand through her connection with the Canterbury Association. At her launch she was described as 'the finest of her class ever built in Bristol' and she was also the largest sailing vessel built there to date, for even by old measurement—which had favoured slender vessels—she was of 619 tons.

Some noteworthy ships were built for Liverpool owners in the South America trade. These included Gruning's barque *Hidalgo*, 290 tons, of 1857, which was the first vessel built in Bristol to Lloyd's 14-year class. There had been many of the 13-year class, but the advantage of the extra year was obtained by building under cover, a practice which seems to have originated during the Crimean war when naval work proceeded in all weathers and by day and night. The *Hidalgo* was fitted with Cunningham's patent reefing gear and it was said that her builders, Charles Hill and Sons, had aimed at 'making a ship at one a clipper sailer and a good carrier'—an aim which was almost universally pursued for this class of vessel. The first three large iron sailing vessels from Bristol yards were also built for Liverpool owners mainly in the South America trade. They were the barque *John Bright*, 299 tons, of 1846, by as yet unidentified builders, and the sister barques *Prospero* and *Trinculo*, 308-310 tons, built by Stotherts in 1856 and 1858 respectively.

Nine medium sized craft were built for the West African trade in the period under review. They comprised a schooner (later re-rigged as a brig), five brigs and three barques, and judging by the dimensions of most of them—the old measurement tonnage being greater than the new—they must have been built on com-

paratively shallow-draught lines. The schooner was the *Edward Colston*, 103 tons, by Hillhouse in 1839, and of the three barques two by Symons and Bevan were almost sister vessels, the *Fantee* of 1848 and *Dahomy* of 1849, 271 tons, but the *Batanga* of 1853, 142 tons, which was to be wrecked soon afterwards in the Severn estuary in tragic circumstances, was built on clipper lines by Patterson. All retained the old feature of the square stern and had figure-heads, in some cases of dusky beauties, which were said to have pleased their African customers tremendously.

Besides the above intermediate craft for West Africa, a number were built for the West India, Newfoundland, Mediterranean and Australian trades. A typical one for the West Indies was the brigantine *Era* of 1849, 204 tons. A typical Newfoundlander was the brig *Cordelia*, 184 tons, of 1844, a smaller one being the schooner *Onward*, 129 tons, of 1849. The brig *Elizabeth Cowman*, 108 tons, of 1855 was built for Whitehaven owners to carry ore from Huelva, an extremely hard trade. There were other brigs for owners in Cardigan Bay participating in the West India and Mediterranean trades.

Three small vessels were built at Bristol between 1852-3 for the Australian coasting trade—the brigantine *Australian* and schooners *Valentine Hellicar* and *Melbourne*. The *Australian* came back to England at a later date and was employed in the Western Islands fruit trade.

An unusual vessel was the iron brig *Locomotive*, 197 tons, built by J. M. Hyde in 1855. She had the modern elliptical stern and a scroll head—a comparatively inexpensive form of decoration. It is said she was built to carry railway engines to South America, but her first voyage was to Montreal. Later, in Liverpool ownership, she became a barter ship on the West Coast of Africa and, when so employed, was accidentally blown up by some native plunderers, who entered her powder magazine.

Very few coasting schooners and smacks for home waters were built in this period, doubtless because of the rising prominence of steam vessels. The *Margaret Wilson*, 100 tons, of 1839, was a noteworthy fast schooner for Sloan of Glasgow, the concern which ran regular Glasgow-Bristol packets until a few years ago. The coasting smack *Double X*, 46 tons, of 1848, of very sturdy build, is noted in *Lloyd's Register* as being built of oak, elm, pine and 'part old materials'. This practice was not common in Bristol, being usually associated with places near naval dockyards where surplus ships of first class construction were often scrapped when outmoded rather than worn out.

Of small vessels for home waters, the mission cutter *Eirene*, 36 tons, built at Pill in 1839, is noteworthy as being the first of her kind. The press described her as a 'small but beautiful cutter' and below decks 'we are struck with astonishment at finding, in a space so small, beds to accommodate a school of pilots, children of the men who are employed on board, and such clergy who may accompany the Chaplain, fifteen in all; and notwithstanding such a number a library 15 ft by nearly 14 ft opening into the galley, and a little chapel capable of seating a hundred persons.' Another first in the mission field was also built at Pill, the brigantine *Triton*, 120 tons, which after one commercial voyage was acquired by the Wesleyan Missionary Society and sent to the Pacific via the Cape of Good Hope and Australia, setting out in 1839.

Of even smaller craft there were a number of pilot vessels, and in 1851, with what amounts to an early attempt at line production, Patterson launched no less than seven in quick succession of around 26 tons and 43½ ft in length. Patterson also built yachts, notably in 1852 the *Oriana*, 57 tons, for a member of the Royal Yacht Squadron. This renowned builder was popular with the press and always obtained good publicity. On this occasion they said, 'Mr Patterson has just added another leaf to the chaplet he has already won as an eminent naval architect in the completion of a yacht of exquisite model and construction.' In the following year he built the *Adiante* for himself and in 1856 an iron cutter, the *Cyclone*, 27 tons, which was afterwards owned by Joshua Field, the eminent engineer.

Trows for the Severn carriers were usually built on that river, but in 1843 and 1856 respectively two experimental iron trows were built at Bristol for the progressive Danks, Venn and Saunders Company which was later to become the Severn and Canal Carrying Company. The *Leander*, 31 tons, was followed by the *Mary*, 52 tons, and later there were others.

Steamship production during the period was varied. We must dismiss at once the *Demerara*, built by Patterson in 1851 and intended to be the second largest steamship in the world. She stranded in the Avon when on her way to the Clyde for her engines and after considerable delay was finished off as a sailing ship of 3,011 tons. She proved a good sailer and made a passage from Callao to Queenstown in 108 days. Her career was ended prematurely when she sank in a hurricane at St. Thomas in 1867, an occasion on which only two of sixty vessels survived.

Obviously the most important steam vessel produced at Bristol, and indeed in the kingdom, at that time, was the Atlantic liner,

Great Britain, 2,936 tons. She was the first large iron vessel and the first large screw steamship to be built, incorporating a vast number of innovations from the genius of Brunel. She has been described fully elsewhere, and by a booklet in this series (No. 11) so it will be unnecessary to dwell on her at length. She was brought back to Bristol in June 1970 after an epic of salvage made possible by the use of an ocean-going pontoon. On July 19th she was repositioned in the old dry-dock from which she had been 'launched' exactly 127 years before.

The two other large steamships built in Bristol in this period were the West India Royal Mail Company's *Avon* and *Severn*, 1400 tons, of 1842. They were built by Acramans under the supervision of Patterson, but the former concern succumbed to financial difficulties before the second was fitted out. They were wooden paddle vessels with a length of 218 ft. The *Avon* was lengthened and almost rebuilt in 1852, and was wrecked at Colon ten years later. The *Severn* was short lived, and after use as a hospital ship during the Crimean War was broken up in 1856.

The period was one in which much experimentation took place towards speeding communications between the United Kingdom and the distant colonies. Steamships could not carry sufficient coal for the complete passage, but refuelling en route was very expensive at a time when the coal had to be brought from Great Britain. Thus much thought was given to auxiliary steamships which carried full sets of sails for use when the conditions were favourable. The *Royal Bride*, launched in 1858 by John Hyde and Company for Miles and Kington, trading with Australia, was an interesting auxiliary screw barque of 984 tons. She was built of iron with an elliptical stern, clipper bows and scroll head, wire rigging and Cunningham's topsail reefing device. Her propulsion was by Hyde's patent single bladed propeller and, when not in use, this was shrouded by shutters operated from the deck. This proved to be a weak point, however, and her first voyage was much delayed by the shutters carrying away. In 1859 Patterson took her in hand and altered her stern to take a lifting screw. She was not a successful vessel, and was sold in 1862, finding her way to Spanish ownership.

An earlier but much smaller auxiliary steamship built in Bristol was the iron two-masted schooner *Fearless*, 166 tons, launched by Lunell in 1851. She was fitted with Griffith's patent feathering screw and by steam alone made between ten and eleven knots on trial. She belonged to a company of gentlemen, headed by Mark Whitwill, interested in the Mediterranean trade, but evidently was not as successful as anticipated for she was sold in the

following year. J. M. Hyde built a smaller vessel, the *Mystery*, 187 tons, for the West India trade of Edwards and Company. Like most of Hyde's products she incorporated several novelties such as Hyde's patent diaphragm boiler, Hyde's patent single bladed screw and Hyde's system for compass correction in iron vessels. Nevertheless in three years time she was converted to a pure sailing craft.

Of full powered steamships there was a noteworthy trio of iron screw vessels named respectively *Scamander*, *Meandre* and *Araxes*, built by Stotherts for the Moss Line of Liverpool in the years 1854-5. They were fitted for passenger carrying and contemporary accounts, such as those in *Illustrated London News* indicate that they were superior in design and comfort for their day. They measured slightly over 1000 tons and had two-cylinder oscillating engines also made by Stotherts.

Nine steamships were built for foreign or colonial interests. The *Little Nile*, 28 tons, a wooden paddle vessel of 1839, was sent out to Egypt. Two years later the Adriatic passenger steamer *Archduke Frederick* was built for the Austrian Lloyd Company by Acramans, Morgan and Company. She was an iron paddle steamer of 380 tons embellished with a figurehead of the Grosshertzog, and had a long and useful life before being wrecked in 1892. Other vessels for overseas were the Australian coastal paddle steamer *Shamrock* of 1841; the small coaster *Bournabat* for Smyrna in 1844; the tug *Mitau* for Riga in 1844, and the coaster *Crete* for owners at Candia in 1845. Then in 1849 Patterson built three steamships for the Austrian government. The *Corah* was of over a thousand tons, but the *Inca* and *Cacique* were slightly smaller. They were wood-built paddle vessels with low power engines and full sail plan. Described as war vessels, they were built in an immensely strong fashion. The *Corah* was 'fastened with staple and hanging knees to every beam; her keel and garboard strakes are on Lang's improved principle and she is diagonally fastened upon the plan of Sir Robert Seppings. Her timbers are caulked and bolted together and at her bottom form a solid mass, being not only bolted and caulked but payed over. Judges in such matters admit they have seldom seen a ship so strongly bolted.'

A number of interesting steam packets were built in Bristol during the period. First, for the Irish trade, there were two wooden paddlers with the 'traditional' features of square sterns, false ornamental galleries and female figureheads—the *Shamrock*, 493 tons, of 1839, and the *Rose*, 565 tons, of 1842. Each successive packet was larger and more powerful, a progress which even-

tually ended, or rather was handed over, with the opening of the railway-owned short sea links such as Fishguard-Rosslare. The *Rose*, for instance, 'was fitted with the largest pair of marine engines yet made in Bristol,' the fashion at the time being simple engines with a pair of cylinders each of which worked on one paddle and could be reversed for quick manoeuvring. In 1844 the *Shamrock* was fitted with Smart's patent convex propellers, which were said to be a great improvement in efficiency. The invention was by Robert Smart, a prominent shareholder in the Bristol General Steam Navigation Company, but 'propeller' is misleading as it actually refers to a type of paddle wheel float. The next Irish packet, the *Juverna*, from Lunell's yard in 1847, was a distinct advance and remained for several years the crack ship of the Bristol-Irish fleet. She was built of iron, but tradition was maintained by giving her an ornamental stern with sham galleries and a figurehead at the bows—'a gilded representation of Juverna, the ancient name for Erin'. She was originally of 555 tons gross, but was later lengthened and fitted with a second funnel—always calculated to impress the passengers. Comfort was also studied for whereas the *Rose* was 'tastefully fitted up with mahogany and papier-mache,' the *Juverna* was 'panelled with maple wood with marble pillars and gilded corning.'

A notable passenger packet for the Thames was the Blackwall Railway Company's *Little Western*, built in 1841 by Acramans, Morgan and Company of composite construction, a system which, however, never became popular in Bristol. She was at the time the largest river passenger steamer in Europe, although of only 431 tons. She was fitted with a pair of beam engines of unusual design driving Morgan's patent feathering float paddles, and proved to be extremely fast. It is interesting to note that she was 'launched' complete with engines, boilers and all rigging by means of a cradle and a full tide, Acramans' yard being on the tidal Cut. The *Little Western* delighted Thames excursionists for some thirty years before being stripped for a coal hulk.

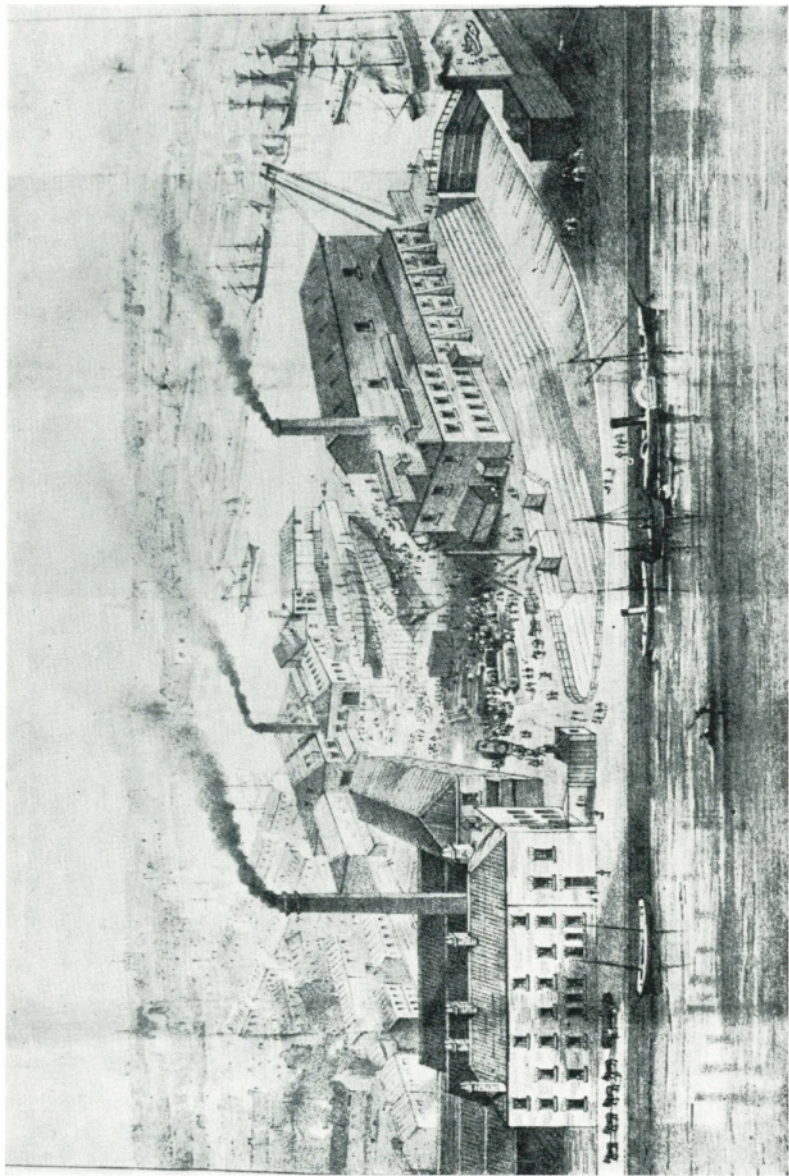
The *Frankfort*, later renamed *Holland*, of 1849, and *Gross Herzog von Oldenbourg* later *Belgium*, of 1850, were well known cross-channel packets of their day built by Patterson. Among coastal packets the *Amelia*, *Athlete* and *Augusta*, built by Hyde in 1854, 1855 and 1856 respectively, were important in that they were the first steam vessels owned by Frederick Hillman Powell of Bristol. This farsighted shipowner later moved to Liverpool and began a series of amalgamations which became eventually the massive Coast Lines, Limited. His device of a white chevron on a black funnel distinguishes the line to this day.

In 1844 two small screw packets were built by Stotherts for the Bristol and Newport service and sparked off a bitter rivalry with the old established Bristol General Steam Navigation Company. The press said—‘The screw as a propelling power is undergoing trial in two small iron boats lately placed on the line between Bristol and Newport, in opposition to the safe and more capacious boats of the Bristol Steam Navigation Company; the new boats which we understand are formed out of the boilers of railway locomotive engines are sharp and narrow and formed for speed. They use high pressure engines. . .’ The *Severn* and *Avon*, although probably not formed from the boilers of railway locomotives (Stotherts, incidentally, having an international reputation as builders in this field as well) were certainly very narrow and speedy craft, as reports of several collisions testify. They were virtually sister ships of about 105 tons. The older company built the traditional iron paddler *Swift* for the Newport service, eventually driving the interlopers into financial straits and abandonment of the competition. The *Swift*, 160 tons, was probably the largest size suitable for the daily service to the Usk, having the great advantage over the screw boats of a shallower draught. She was eventually sold to become a blockade runner in the American civil war.

The Crimean war gave an impetus to local shipbuilding with contracts for mortar vessels and gunboats. They were the first war vessels built in Bristol since the French wars with the exception of a small iron paddle harbour service vessel, the *Ruby*, built by Acramans in 1842, which ended ignominiously only four years later as a gun target. The Crimean war orders included four non-propelled mortar vessels of 166 tons displacement, all built by Patterson. He also built two screw gunboats, *Earnest* and *Escort*, while Charles Hill and Sons built three similar gunboats, *Hardy*, *Havock* and *Highlander*. All were of 233 tons displacement. Damer Powell records that these Bristol-built vessels were ‘highly commended by the Government surveying officers, so faithfully have they been built that they were at once sent to sea while many others were half torn to pieces to make them seaworthy.

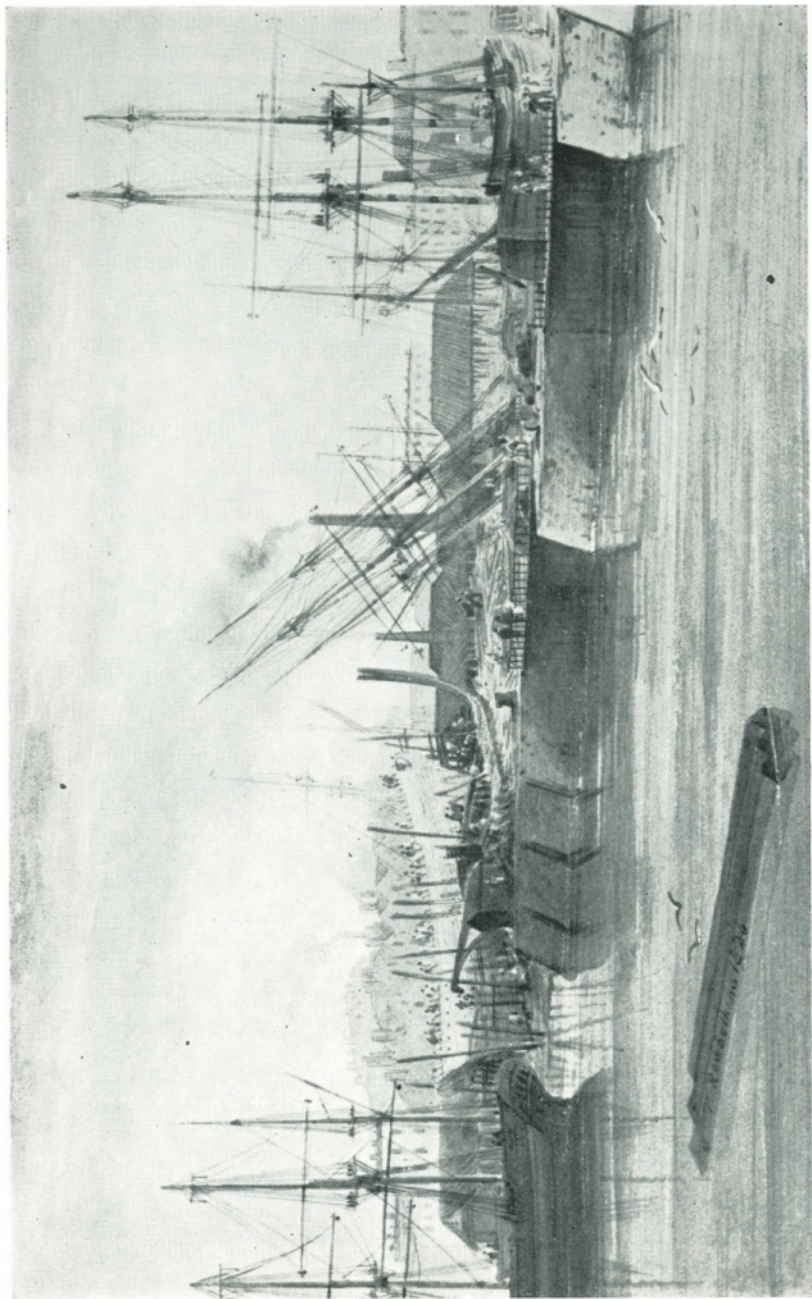
Period 1860-1899

The last forty years of the nineteenth century were comparatively barren for the Bristol shipbuilding industry. There were built about 114 steam vessels and 119 sailing or ‘dumb’ in varying sizes. From 1860 until 1895, when the last of the type was built, there were 31 large square-rigged sailing vessels.



Stothert's Yard in the 1890's, from an advertisement.

By courtesy of the Port of Bristol Authority



Docks and building ways at Eastern Wapping in 1826 as seen by T. Rowbotham. The barque *Avon* is shortly to be launched from Scott's yard. William Patterson later took over this yard and built there, among others, the pioneer Atlantic steamship *Great Western*, in 1836-7.

By courtesy of the City Museum and Art Gallery

Of the last named category the West Indiamen of this period were quite small craft. Daniels' *Augusta*, 548 tons, of 1868, was the largest, and Hill's *Mabel*, 465 tons, of 1873, was the last to be built for the trade in Bristol. Those built for the East India trade were larger, the ship *Maha Lukshmi*, 1141 tons, built by Stotherts in 1865 being the largest. Patterson built two for Liverpool owners in 1864, the barques *Ladye Love*, 501 tons, and *White Squall*, 537 tons. The last full rigged ship to be built at Bristol was the *Remus*, 768 tons, built for the Ceylon trade of J. C. Buckle and Company in 1872.

The South American ore and nitrate trades were served by medium sized barques such as the guano carriers *Gwendoline*, 356 tons, and *Gertrude*, 495 tons, built by Hills in 1869 and 1877 for their own account. Two for the Swansea copper ore trade also came from Hills, the *Beta*, 466 tons, in 1864, and the *Eta*, 521 tons, in the following year. The two largest sailing vessels yet built in Bristol, the *Demerara* alone excepted, were built by Patterson in 1864 and 1865, being in fact his last. The *Royal Sovereign*, 1388 tons, and *Royal Adelaide*, 1385 tons, were both built for Fernie Brothers of Liverpool.

The shipyard of Charles Hill and Sons, which after inevitable ups and downs, is building to this day, was equipped for fabricating iron vessels in 1880 and in the following eleven years built a series of eight iron and steel barques on speculation, the last large sailing vessels to be built in Bristol. They were designed with no particular trade in mind, with no pretensions to speed, no heavy spars above, and no fancy lines below, but were useful cargo carriers in the closing years of their breed. The first three, the *Gayton* of Liverpool, *Phyllis* of Bristol, and *Sita* of Newport were virtually sister vessels of 967-985 tons. The next five were sisters of around 1637 tons, the *Nellie Troop*, *Penrhyn Castle*, *Gladys*, *Powys Castle* and *Favell*. The *Phyllis*, *Gladys* and *Favell*, named after ladies in the family, were run by Hills on their own account for several years and the last named, then in Finnish ownership, was not broken up until the winter of 1934-5.

Of smaller sailing vessels perhaps the most important products in this period were the barquentine *Viola*, 192 tons, built by Peters in 1872 for the Newfoundland trade and the same builder's brigantine *Julia*, 144 tons, which was employed in both the Newfoundland and Brazil trades. In 1861 Hills built a small schooner of 84 tons, the *Emma*, which was renamed *Child of the Ocean* and went out to China for coastal work.

Hills built five light-vessels, two for the Port of Dublin Commissioners in 1862-3, and three for the Corporation of Trinity

House in 1885-6. They were of the usual extremely sturdy construction in wood and the last was sold out of the service as recently as 1947, being now used as a yacht club headquarters at Bristol.

In steamship building Stotherts built their first compound marine engines and fitted them to the paddle steamship *Clifton*, built in 1865 for the General Steam Navigation Company, of London. She was of 777 tons, a fairly large vessel for her time in the passenger and packet trade between London and the continent. In 1868 John Payne built his first twin screw vessels, the tug *Harlequin* for local work and two coastal craft of about 200 tons for Brazil, the *Corruipe* and *Mondahu*. George Newall and Company, of Saint Philip's, another concern combining steam engineering with shipbuilding, built the coaster *Portichol*, 124 tons, for Uruguay in 1888, and the *Deseado*, 281 tons, for Buenos Aires, in 1890, the latter having the distinction of being fitted with Bristol's first triple-expansion marine engine. Newalls, incidentally, were the first Bristol shipbuilders to build in steel when, in 1885, they built a number of tugs, most of which were a standard design of about 40 tons. Three of them were purchased by the Turkish government and fitted out as 'despatch vessels', while another, the *Novorossisk*, was sold to the Vladivostock Railway Company.

Tugs were in fact an important product of Bristol shipyards in the last forty years of the century. They varied in size from diminutive craft for use on the canals to the large paddlers which were the last of the 'seeking' tugs steaming to the mouth of the Bristol Channel and beyond to secure the towage of large home-ward-bound sailing vessels. In this category were the *Ajax*, 125 tons, of 1861, for the Bristol General Steam Navigation Company and the *Relief*, 104 tons, of 1863 for the New Steam Tug Company of Liverpool, both built by Stotherts. The largest was the *Resolute*, 271 tons, of 1864, also by Stotherts for the New Steam Tug Company, and the last was the *Leo*, 96 tons, built in 1871 by John Payne for the Bristol General Steam Navigation Company. Although paddle tugs remained in favour in the north of England, screw tugs were found more suitable for work on the Avon.

In the last decade Charles Hill and Sons built two large steamships for their Atlantic cargo line, the *Wells City*, 1814 tons in 1890, and *Bristol City*, 2512 tons, in 1899. The latter was the largest locally built vessel since the *Demerara*, almost half a century earlier.

Shipbuilding Sites in Bristol

Successive extensions to the accommodation of the port have caused the rise and fall of several shipbuilding localities in the past. As far back as the seventeenth century shipbuilding was driven from The Marsh (Queen Square area) when its perimeter was quayed. At the beginning of the century under review there were three major areas—Canon's Marsh, Wapping and Hotwells, with smaller units at Mardyke, Limekiln Dock and elsewhere. The upheaval caused by the 'dockisation', which was completed in 1809, did not cause immediate changes, but in the following ten or twelve years the Hillhouse concern opened their new dockyard between the Cut and the Harbour, later known as the Albion Yard, which produces fine ships to this day. One or two shipyards for small vessels were established in the area known as Nova Scotia after the hostelry, still flourishing, which was built near Cumberland Basin for the convenience of the packet passengers.

Later a yard was laid out on the bank of the tidal Cut and steam vessels, mainly of iron, were built there. Wooden barques, later iron and steel barques and small steam vessels, were built on the banks of the waterways upstream from Bristol Bridge. Eventually the quaying of Wapping, *circa* 1865-75, and of Canon's Marsh, *circa* 1883-93, closed the yards in those areas. The process will continue, for now we are faced with the complete closure of the docks and the consequent mortification of Bristol's oldest industry.

At Pill, on the Somerset bank of the Avon, two, perhaps more, yards produced a fair amount of vessels, formerly large ones, but in later years mainly pilot cutters—a class of vessel acknowledged to have been probably the most seaworthy for its size in the world. At Portishead and Uphill, both technically within the Port of Bristol, the building of small craft was practised in the early years of the nineteenth century.

BRISTOL BRANCH
OF THE HISTORICAL ASSOCIATION
LOCAL HISTORY PAMPHLETS

Hon. General Editor: PATRICK McGRATH
Assistant General Editor: PETER HARRIS

1. *The Bristol Hotwell* by Vincent Waite (out of print).
2. *Bristol and Burke* by P. T. Underdown. 10p.
3. *The Theatre Royal; the first seventy years* by Kathleen Barker. Third edition, 20p.
4. *The Merchant Adventurers of Bristol in the Fifteenth Century* by E. M. Carus-Wilson (out of print).
5. *The Port of Bristol in the Eighteenth Century* by Walter Minchinton (out of print).
6. *Thomas Chatterton* by Basil Cottle. 10p.
7. *Bristol and the Slave Trade* by C. M. MacInnes. 15p.
8. *The Steamship Great Western* by Grahame Farr. 15p. (out of print).
9. *Mary Carpenter of Bristol* by R. J. Saywell. 15p.
10. *The Chartists in Bristol* by John Cannon. 15p.
11. *The Steamship Great Britain* by Grahame Farr. 20p.
12. *Ferdinando Gorges and New England* by C. M. MacInnes. 15p.
13. *The Port of Bristol in the Middle Ages* by J. W. Sherborne. 25p.
14. *The Theatre Royal: Decline and Rebirth 1834-1943* by Kathleen Barker (out of print).
15. *The Bristol Madrigal Society* by Herbert Byard. 15p.
16. *Eighteenth Century Views of Bristol and Bristolians* by Peter T. Marcy. 15p.
17. *Early Bristol Quakerism, 1654-1700* by Russell Mortimer. 15p.
18. *The Industrial Archaeology of Bristol* by R. A. Buchanan. 15p.
19. *Captain Thomas James and the North-West Passage* by C. M. MacInnes. 15p.
20. *The Anti-Slave Trade Movement in Bristol* by P. Marshall. 18p.
21. *Sebastian Cabot and Bristol Exploration* by David Quinn. 25p.
22. *The Romans in the Bristol Area* by K. Branigan. 20p.
23. *Prehistoric Bristol* by L. V. Grinsell. 20p.
24. *The Medieval Churches of Bristol* by M. Q. Smith. 20p.
25. *John Whitson and the Merchant Community of Bristol* by P. McGrath. 20p.
26. *Nineteenth Century Engineers in the Port of Bristol* by R. A. Buchanan. 20p.
27. *Bristol Shipbuilding in the Nineteenth Century* by Grahame Farr. 25p.
28. *Bristol in the Early Middle Ages* by David Walker. 25p.

The pamphlets can be obtained direct from Peter Harris, 74 Bell Barn Road, Stoke Bishop, Bristol 9, BS9 2DG.

Please add 3p to cover postage for each pamphlet

